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| 10/552,163  | 06/27/2006  | Vittorio Orlandi     | 82062-0177                     | 9197             |
| 24633   | 7590        | 12/10/2009           |                                |                  |
| HOGAN & HARTSON LLP<br>IP GROUP, COLUMBIA SQUARE<br>555 THIRTEENTH STREET, N.W.<br>WASHINGTON, DC 20004 |             |                      | EXAMINER<br>STEELE, JENNIFER A |                  |
|   |             |                      | ART UNIT                       | PAPER NUMBER     |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/552,163

**Applicant(s)**

ORLANDI ET AL.

**Examiner**

JENNIFER STEELE

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 53-101 is/are pending in the application.
- 4a) Of the above claim(s) 53-90 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 91-101 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

***Election/Restrictions***

1. The Applicant originally elected the product claims of Group II with traverse. After receiving a first action on the merits, Non-Final Action 1/26/2009, Applicant responded with amendments to both the elected and non-elected claims. Applicant did not indicate the status of the non-elected claims as withdrawn and Examiner responded that that the amendment was Non-Responsive.

Applicant responded on 8/27/2009 by cancelling all previous claims and submitting new claims 53-101 where claims 53-90 are drawn to a process of making a nonwoven and claims 91-101 are drawn to an article. The article claims are in product by process format.

Applicants argue that the claims as amended share one or more special technical features and thus the lack of unity should be withdrawn. Examiner maintains that the technical features of the claims are not special and the technical feature of preparing a splittable fiber web and a pulp web and hydroentangling the webs in order to split the multicomponent fibers into mono-component microfibers entangling with one another. This is evidenced by reference to Vonfelt (US 6,739,023) which teaches forming a layer of splittable continuous fibers, splitting the fibers into split filaments and superimposing a second layer of staple fibers and entangling the first and second layers together. Upon reconsideration, the claims lack unity of invention and the restriction is proper. Therefore the invention originally elected, Group II drawn to a product will be examined.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 91-101 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 91-101 include the limitation that the "at least one layer ( $T_1$ ) of exploded polymer fibers has not been previously subjected to a bonding step". The specification refers to the steps of producing the nonwoven in paragraphs [0024] (page 10) of the specification originally filed and on paragraphs [0040]-[0044] of the PG PUB. This disclosure presents the steps where the first layer ( $T_1$ ) is prepared and laying absorbent layer ( $T_3$ ) on first layer ( $T_1$ ) and then laying a second layer ( $T_2$ ) on the absorbent layer and then the layers are hydroentangled. The specification does not describe that layer ( $T_1$ ) is "not bonded" prior to the applying the other layers ( $T_3$ ) and ( $T_2$ ). Any negative limitation or exclusionary proviso must have basis in the original disclosure. The mere absence of a positive recitation is not basis for an exclusion. Any claim containing a negative limitation which does not have basis in the original disclosure should be rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. See *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), *aff'd mem.*, 783 F.2d453 (Fed. Cir. 1984).

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 91-96 and 101 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Vonfeldt et al (US 6,739,023).** Vonfeldt teaches a method of forming a nonwoven composite fabric that includes the steps of providing a first layer of splittable continuous fibers, splitting the fibers into split filaments and superimposing a second layer of staple fibers and entangling the first and second layers together (ABST). Vonfeldt teaches the staple fibers are pulp fibers (col. 3, lines 50-53). Vonfeldt teaches the splittable fibers are multicomponent fibers (col. 2, lines 37-42). Vonfeldt teaches the fibers are hydroentangled (col. 2, lines 8-21).

Vonfeldt differs and teaches the multicomponent splittable fiber layer is hydroentangled to split the fibers before hydroentangled to bond to the pulp layer.

Whether the first layer of multicomponent fibers is in the form of spunbonded web or is unbonded before hydroentangling to bond to the pulp layer is a process limitation and not a structural limitation. Process limitations in claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "In re Thorpe", 227 USPQ 964, 966 (Fed. Cir. 1985).

Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 562 F.2d at 1255, 195 USPQ at 433. See also *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985)

As to claim 92, splittable microfiber are equated with exploded fibers.

As to claim 93-95 and 46, Vonfeldt teaches a layer of split fibers and a layer of staple fibers and teaches the split fibers have a denier less than about 0.7 and less than about 0.1 and less than 0.01. A denier of less than 0.7 is a micro-fiber layer as claim 95 describe the size of the micro-fibers are between 0.1 to 0.9 dtex and between 1 and 5 micron. Less than 0.7 denier is in the range of claims 95.

As to claims 101, the claim is drawn to a statement of use and does not distinguish the claims from prior art of Vonfeldt. However, Vonfeldt teaches a single or multi-layer nonwoven comprised of splittable multicomponent filaments and Vonfeldt teaches employing the splittable filaments with other layers and with absorbent materials such as cellulose pulp fibers.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claim 91-96 and 101 rejected under 35 U.S.C. 103(a) as being unpatentable over Marmon et al (US 6,200,699) in view of Palacio et al (US 2002/0115370).** Claim 91 describes a hydroentangled single of multi-layer nonwoven produced by a process comprising the steps of:

- Preparing at least one layer ( $T_1$ ) of splittable multicomponent polymer fibers and
- At least one layer of cellulose pulp fibers ( $T_3$ ); and
- Hydroentangling said at least one layer of splittable multi-component polymer fibers and said at least one layer of cellulose pulp fibers ( $T_3$ ) such

as to obtain a nonwoven where the multicomponent polymer fibers are split into monocomponent microfibers entangling with one another

- Wherein the said at least one layer ( $T_1$ ) of splittable multicomponent polymer fibers has not been previously subjected to a bonding step.

Marmon teaches a nonwoven web fabricated by forming multicomponent fibers that are bonded and then hydroentangled such that the entangling process separates the individual segments of the multicomponent fibers into microfibers (ABST). Marmon teaches multicomponent fibers are comprised of at least two components and the components become separated into the individual components to form an entangled web (col. 2, lines 36-41). Marmon teaches that additional components can be added to the to the nonwoven web such as pulp fibers (col. 12, lines 48-59).

Marmon differs from the current application and does not teach a layer of multicomponent fibers with a layer of pulp fibers that are then hydroentangled together.

Palacio et al teaches a hydraulically entangled nonwoven composite structure that includes a matrix of continuous filaments and may further include pulp fibers [0015]. Palacio teaches a method of producing the web such that a layer of synthetic fiber and fiber like materials and superposing the layer of synthetic fibers and fiber-like materials over a layer of substantially continuous filaments and hydraulically entangling the layers to form a nonwoven composite structure [0019]. Palacio teaches an embodiment where the steps of providing a layer of synthetic fibers and superposing a layer of synthetic fibers over a layer of continuous filaments may involve or include depositing a layer of

recycled fibers and pulp fibers directly on a layer of continuous filaments by dry forming or wet forming techniques [0021]. Palacio teaches that the process allows the pulp fibers to be secured within the matrix of synthetic fibers [0100].

Marmon teaches hydroentangling multicomponent splittable fibers and including pulp. Palacio teaches that it is known to provide a layer of synthetic fibers or filaments that are not bonded and then apply a layer of synthetic fibers or pulp fibers and hydroentangle the layers to form a composite.

It would have been obvious to combine the known techniques and materials of Marmon and Palacio motivated to produce a composite with the absorbent properties of pulp fibers that are bonded within the stronger multicomponent fibers.

As to claims 93 and 94, Marmon teaches the separation of the multicomponent fibers into the microfibers. Microfibers are fibers that have a diameter of less than 12 micron, preferably from about 3 micron to about 8 micron. As the exploded fibers of the current application have the structure of a microfiber diameters, therefore the microfibers of Marmon are equated with exploding the fibers.

As to claims 95 and 96, Marmon teaches that microfibers are from about 3 to about 8 microns (col. 3, lines 54-67) and in the range of claim 46. Marmon teaches that micron can be converted into the units of denier where 15 micron equals 1.42 denier (col. 4, lines 1-4). Therefore the 3 to 8 micron fibers are equal to 0.06 to 0.4 denier which is equivalent to 0.07 to 0.44 dtex in the in the range of claims 95 and 96.

As to claims 101, the claim is drawn to a statements of use and does not distinguish the claims from prior art of Marmon. However, Marmon teaches a single or

multi-layer nonwoven comprised of splittable multicomponent filaments and Marmon teaches employing the splittable filaments with other layers and with absorbent materials.

**5. Claim 97-100 rejected under 35 U.S.C. 103(a) as being unpatentable over Marmon (US 6,200,699) in view of Palacio et al (US 2002/0115370) and in further view of Everhart (US 5,284,703).**

As to claims 97 and 98, Marmon teaches the fabric has basis weight of 1.5 osy and 2.0 osy in examples 3 and 1 which is equivalent to 51 gsm and 67 gsm and in the range of claims 97 and 98.

Marmon teaches that fibers of the nonwoven web may contain conventional additives and additional materials or components may be added to the web to provide additional functionality such as pulp. Marmon references US Patents 5,284,703 and 5,389,202 issued to Everhart regarding high pulp content hydroentangled nonwoven webs. Marmon does not reference the percentage of pulp fibers in the nonwoven web.

Everhart teaches the high pulp content webs incorporate more than 70% pulp fibers and provide absorbent properties. Everhart teaches the absorbent properties expressed as water wicking and oil absorbency in Tables 1, 2 and 3.

It would have been obvious to employ pulp fibers in the nonwoven web of Marmon motivated by Marmon's reference to Everhart and Everhart's teaching of hydroentangling absorbent pulp fibers in a nonwoven web. As the structure of Marmon in view of Everhart teaches absorbent properties such as water wicking and oil

absorbency, it is presumed that the property of 600% to 700% absorption power is inherent in the structure of Marmon.

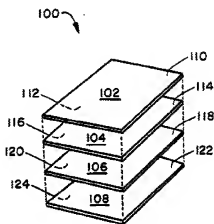
Marmon teaches the grab tensile strength of the fabric as a function of the hydroentangling energy used to form the fabric. Marmon teaches the grab tensile strength in the MD and CD in Fig. 17A and 17B. Marmon teaches the grab tensile strength is measured to determine the force to break and the percent stretch before breakage. It is presumed that as Marmon in view of Palacio and Everhart teach the structure and materials of the current application, the properties of tensile strength and elongation could be optimized to form the claimed invention.

As to claims 99 and 100, Marmon teaches the nonwoven can be a three layer type such as an SMS (col. 13, lines 1) or laminated to microporous films or incorporating pulp fibers. Marmon differs and does not teach the structure of the laminate has an inner layer of a cellulose pulp fiber. Marmon teaches nonwoven webs of basis weights of 51 and 67 gsm, and Marmon does not teach layers with basis weights of 11-13 gsm and pulp fiber layer of 26-39 gsm. Marmon differs and does not teach the thickness of the nonwoven material.

Palacio teaches a layer of pulp fibers can be deposited on a layer of filaments and fibers and hydroentangled together without prior bonding of the layers. Palacio does not teach the thickness of the pulp in the inner layer.

Everhart teaches the pulp layer is the inner layer as shown in Fig. 7 of an exemplary absorbent structure suitable for a personal care product such as a diaper below. Layer 106 is the pulp layer and layer 102 is a top layer comprised of a nonwoven

web of meltspun fibers or filaments, and layer 104 is a fluid distribution layer and 108 is a bottom layer (col. 10, lines 38-68).



**FIG. 7**

Everhart teaches the thickness or bulk of the web and presents the results in Table 3. The bulk or thickness for the examples in Table 3 range from 0.022 to 0.023 inches which is equal to 0.56 to 0.58 mm and in the range of the current application.

It would have been obvious to combine the features of a multicomponent splittable fiber or microfiber hydroentangled with a pulp layer wherein the inner layer is the pulp layer motivated to produce a composite with an absorbent inner layer.

### ***Response to Arguments***

6. Applicant's arguments with respect to claim 53-101 have been considered but are moot in view of the new ground(s) of rejection. As noted above the previous restriction between the process claims 53-90 and the product claims 91-101 is maintained as the claims do not meet the lack of unity requirement. Hydroentangling a

layer of multicomponent splittable fibers and a layer of pulp fibers is known in the art as evidenced by Vonfelt (US 6,739,023).

7. Applicants arguments state that Group I relates to a product claim, however as the original restriction presented, Group I relates to the process claims 1-38 originally presented. Applicant states that Group II relates to product by process claims. Product by process claims are product claims and the patentability of the product claims is based on the structure of the product and not the process of making the product. Applicant has the burden of proof to present evidence of how the process producing a product that is different, novel or unexpected based on the prior art.

Applicant states that Group II was a specially adapted process for the manufacture of the product of Group I. However Group I, claims 1-38 are process claims.

Applicants response to the election restriction on 10/17/2008 clearly states Group I, claims 1-38 drawn to the process and Group II, claims 39-51 drawn to the nonwoven fabric where the Applicant elects Group II claims 39-51.

Examiner has presented a rejection of new claims 91-101, which are Product claims. Examiner has reconsidered the unity of invention restriction requirement, however the claims do not present any limitations that meet the lack of unity requirements. The technical features claimed are not special. The previous election of the product claims is maintained. In the event that the product claims are allowable, the withdrawn process claims, will be rejoined.

Applicants have inferred that the product by process claims may somehow be examined differently than the product claims. Applicant has the burden to show that the process limitations produce a product with an unexpected result.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **JENNIFER STEELE** whose telephone number is (571)272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./  
Examiner, Art Unit 1794  
11/25/2009

/Elizabeth M. Cole/  
Primary Examiner, Art Unit 1794